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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,173	09/18/2001	Hideki Munakata	PI07242-00021	9025

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EXAMINER

MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 01/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,173

Applicant(s)

MUNAKATA, HIDEKI

Examiner

Wesley D Markham

Art Unit

1762



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 total.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of the preliminary amendment filed by the applicant on 9/18/2001 in which Claims 8, 10, and 12 were amended to correct the multiple dependency of the claims. Claims 1 – 12 are currently pending in U.S. Application Serial No. 09/926,173, which is a 371 (i.e., National Stage) Application of PCT/JP01/00332, filed on 1/19/2001, and an Office Action on the merits follows.

Priority

2. Receipt is acknowledged of the papers submitted by the International Bureau under 35 U.S.C. 119(a)-(d) and pursuant to PCT Rule 17.2(a) (i.e., a copy of the certified copy of Japanese priority document JP 2000-16119, filed on 1/25/2000), which papers have been placed of record in the file.

Information Disclosure Statement

3. The IDS submitted by the applicant on 9/18/2001 is acknowledged, and the documents listed thereon have been considered as indicated on the attached copy of the PTO-1449 form.

Drawings

4. The formal drawings (14 sheets, 14 figures) filed by the applicant on 9/18/2001 have been received.

5. Figures 9 – 12 and 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (see, for example, the "Background Art" section of the applicant's specification: page 2, lines 3 – 4; page 3, lines 11 – 20; and page 5, lines 3 – 6; and the "Brief Description of the Drawings" section of the applicant's specification: page 14, lines 18 – 19 and 22 – 25, which indicate that the structures / processes shown in Figures 9 – 12 and 14 are "prior art"). See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office Action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "W" in Figure 11. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office Action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The lengthy specification (26 pages, excluding the claims) has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

8. The abstract of the disclosure is objected to because the phrase, "The wafer storage case of synthetic resin housing wafers, wherein a surface of the wafer storage case is coated with a coating layer of a coating agent to prevent dust generation from the surface" on lines 8 – 11 of the abstract is unclear and confusing. The applicant is suggested to amend the aforementioned phrase to read, "The wafer storage case of synthetic resin is used for housing wafers, and a surface of the wafer storage case is coated with a coating layer of a coating agent to prevent dust generation from the surface." Correction is required. See MPEP § 608.01(b).
9. The disclosure is objected to because of the following informality: The phrase, "therefore it is necessary to perform; pure wafer cleaning with care not to cause partial loss of the surfactant layer L" on page 18, lines 21 – 22 of the specification appears to contain typographical errors. It appears as though the aforementioned phrase should read, "therefore it is necessary to perform pure water cleaning with care not to cause partial loss of the surfactant layer L". Appropriate correction is required.

Claim Observations

10. The examiner makes the following observations regarding the claims of the instant application.
11. The phrase, "wafer storage case of synthetic resin housing wafers" recited in independent Claims 1, 3, and 4 has been broadly but reasonably interpreted by the examiner to be equivalent to, "wafer storage case of synthetic resin for housing

wafers". In other words, the aforementioned claims have been interpreted to not require actually housing wafers in the synthetic resin wafer storage case. This interpretation of the claims is supported by dependent Claims 11 and 12, which explicitly require housing wafers in (1) the wafer storage case of Claims 1 or 2 or (2) the wafer storage case treated by the process of any one of Claims 3 – 6. The examiner's interpretation of the claims is further supported by the applicant's specification as a whole, in which there is no discussion or disclosure of coating a surface of the wafer storage case with a coating agent while the storage case is actually housing (i.e., holding) wafers. It appears to the examiner that, in the applicant's invention, the wafers are housed in the wafer storage case after the case has been treated with the dust generation-preventing coating layer (see, for example, page 24, lines 13 – 17 of the specification).

12. The limitation, "cleaning the (dried) wafer storage case using pure water such that a coating layer of the coating agent remains across the surface of the wafer storage case" recited in independent Claims 3 and 4 has been reasonably interpreted by the examiner to exclude situations / processes in which the coating layer is significantly removed by the pure water cleaning step to expose the storage case surface (e.g., as shown in Figure 14). The examiner's interpretation of the claims is supported by the applicant's specification, in which the applicant states that it is necessary to perform pure water cleaning with care not to cause partial loss of the surfactant layer (i.e., and expose a bare portion of the synthetic resin surface) (page 17, lines 1 – 7, and page 18, lines 13 – 23 of the specification).

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1 and 2 are rejected under 35 U.S.C. 102(a) as being anticipated by the applicant's admitted prior art (AAPA).

15. Regarding independent **Claim 1**, the AAPA teaches a synthetic resin wafer storage case for housing wafers, wherein a surface of the wafer storage case is coated with a coating layer of a coating agent to prevent dust generation from the surface (Figure 12; page 2, lines 3 – 18; page 3, lines 11 – 20; page 4, lines 4 – 6; page 5, lines 3 – 6; and page 14, lines 18 – 19 of the applicant's specification). Specifically, the prior art cleaning method for a synthetic resin wafer storage case shown in Figure 12 (i.e., surfactant cleaning, two steps of pure water cleaning, and clean oven drying) leaves a dust generation-preventing coating layer of the surfactant (i.e., a "coating agent") on the surface of the wafer storage case prior to the cleaning and drying steps (see, for example, page 5, lines 8 – 13 of the applicant's specification). The examiner notes that the AAPA does teach that the surfactant coating layer formed on the surface of the storage case is removed during the subsequent pure

water cleaning steps. However, immediately after the prior art surfactant cleaning step, the synthetic resin wafer storage case is coated with a coating layer of a coating agent to prevent dust generation from the surface, and therefore, the AAPA anticipates Claim 1. Regarding **Claim 2**, the AAPA also teaches that the coating agent is a surfactant (Figure 12, and page 5, lines 3 – 13 of the applicant's specification).

16. Claims 1 and 11 (as it depends from Claim 1) are rejected under 35 U.S.C. 102(b) as being anticipated by Kakizaki (JP 10-056057 A).

17. Regarding independent **Claim 1**, Kakizaki teaches a synthetic resin wafer storage case for housing wafers, wherein a surface of the wafer storage case is coated with a coating layer of a coating agent (Abstract, Figure 1, and paragraphs [0001], [0002], [0008], [0009], [0013], [0019], [0020], [0023], [0024], [0044], [0045], [0057], and [0058]). The "functional thin film" (i.e., the coating layer of a coating agent) of Kakizaki provides the wafer carrier with conductivity, abrasion resistance, endurance, thermal resistance, and/or chemical resistance (paragraph [0019]). Kakizaki does not explicitly teach that the coating layer prevents dust generation from the surface of the wafer storage case. However, the coating layer of Kakizaki (or any coating layer, for that matter) would inherently prevent dust generation from the surface of the wafer storage case because such a layer would prevent the surface of the wafer storage case, as well as the dust particles generated thereon / therefrom, from being exposed and, in effect, "trap" the dust particles on the surface.

Regarding **Claim 11** (as it depends from Claim 1), Kakizaki also teaches a wafer storage method comprising the steps of preparing wafers and housing the wafers in the wafer storage case of Claim 1 (Figure 1, paragraphs [0001], [0002], [0022], [0046], [0047], [0049], [0052], and [0053]). Please note that the examiner has broadly but reasonably interpreted the step of "preparing wafers" recited in Claim 11 to include anything done to the wafers prior to housing the wafers in the storage case (e.g., fabricating the wafers, transporting the wafers to the storage case, etc.).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 11 (as it depends from Claims 1 and 2) is rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA.

20. The AAPA teaches all the limitations of **Claim 11** (as it depends from Claims 1 and 2) as set forth above in paragraph 15, except for preparing wafers and housing the wafers in the wafer storage case of Claim 1 or 2. However, the wafer storage case of the AAPA is clearly designed and intended to be used to house wafers (page 2, lines 3 – 18 of the applicant's specification). Therefore, it would have been obvious to one of ordinary skill in the art to house wafers in the wafer storage case of the AAPA

(i.e., after "preparing" the wafers by, for example, fabricating the wafers and transporting the wafers to and into the storage case) because the wafer storage case of the AAPA is designed and intended to be used in that manner (i.e., to house wafers). In other words, one of ordinary skill in the art would not have been expected to go through the trouble of performing the extensive storage case cleaning process taught by AAPA unless wafers were to be housed in the aforementioned storage case.

21. Claims 1 – 6, 7 (as it depends from all of Claims 3 – 6), 8 (as it depends from all of Claims 3 – 6), 9 (as it depends from Claim 8, as Claim 8 depends from all of Claims 3 – 6), 10 (as it depends from all of Claims 3 – 6), 11 (as it depends from Claims 1 and 2), and 12 (as it depends from all of Claims 3 – 6) are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Fujitsu Ltd (JP 09-122610 A).
22. Regarding independent **Claims 3 and 4**, the AAPA teaches a process for cleaning a wafer storage case, the process comprising the steps of cleaning the surface of a synthetic resin wafer storage case for housing wafers with a surfactant, cleaning the wafer storage case with pure water, and drying the cleaned wafer storage case (Figure 12; page 2, lines 3 – 18; page 3, lines 11 – 20; page 4, lines 4 – 6; page 5, lines 3 – 6; and page 14, lines 18 – 19 of the applicant's specification). Additionally, the AAPA cleaning method for a synthetic resin wafer storage case shown in Figure 12 (i.e., surfactant cleaning, two steps of pure water cleaning, and clean oven

drying) leaves a dust generation-preventing coating layer of the surfactant (i.e., a "coating agent") on the surface of the wafer storage case prior to the pure water cleaning and drying steps (see, for example, page 5, lines 8 – 13 of the applicant's specification). In other words, the surfactant cleaning step taught by the AAPA is equivalent to the step of coating a surface of the synthetic resin wafer storage case for housing wafers with a coating agent, as required by Claims 3 and 4. The AAPA does not explicitly teach (1) drying the wafer storage case coated with the coating agent (Claim 3 only), (2) that a coating layer of the coating agent (i.e., the surfactant) remains across the surface of the wafer storage case after the pure water cleaning step(s), and (3) that dust generation from the surface of the wafer storage case is prevented by the aforementioned coating layer of the coating agent. Specifically, the AAPA teaches that the surfactant coating layer formed on the surface of the storage case is removed to expose the surface during the subsequent pure water cleaning steps. Fujitsu Ltd teaches an analogous process for cleaning and drying various articles (Abstract). The process of Fujitsu Ltd comprises the steps of (1) immersing the article to be cleaned in an aqueous, water-repellent surfactant solution to replace dust on the surface of the article with the surfactant, (2) hanging the article and carrying it to one or two pure water washing / cleaning stations, (3) using the pure water washing to remove excess surfactant from the surface of the article, and then (4) drying the article (Abstract, Figures 1, 2, and 22, and paragraphs [0054] – [0060], [0107], and [0108]). Importantly, the process of Fujitsu Ltd, including the pure water washing / cleaning step(s), is carried out to insure that at least one molecular layer

of the water-repellent surfactant sticks to and remains on the surface of the article (Abstract, paragraphs [0007], [0008], [0012], [0013], [0028], [0030], [0037], [0044], and [0060]). By insuring that at least one molecular layer of the water-repellent surfactant remains on the surface of the article after the pure water washing steps, the subsequent drying step can be more easily and efficiently carried out (e.g., at lower temperatures and for a shorter time) (paragraphs [0033], [0048], [0060] – [0063], and [0109]). This is advantageous in the art of cleaning resin products because, by minimizing the overall drying process, the resin product will not be adversely affected (e.g., due to heat deformation) (paragraphs [0047], [0048], and [0109] – [0111]). The process of Fujitsu Ltd is applicable to hollow articles (paragraphs [0039] and [0092]) and is used to effectively clean and remove dust from the surface of the article (Abstract, paragraphs [0007], [0008], [0095], and [0109]). Therefore, it would have been obvious to one of ordinary skill in the art to utilize the cleaning / drying process of Fujitsu Ltd (i.e., a process in which a molecular coating layer of the surfactant remains across the surface of the wafer storage case after the pure water cleaning step(s)) as the wafer storage case cleaning process of the AAPA with the reasonable expectation of (1) success, as Fujitsu Ltd teaches that their process of cleaning and removing dust is applicable to hollow articles and resin articles (i.e., categories in which a synthetic resin wafer storage case would fall), and (2) obtaining the benefits of using the cleaning process of Fujitsu Ltd, such as efficiently and precisely performing the drying process (i.e., due to the presence of the surfactant layer on the surface of the article), thereby

reducing processing time, and preventing heat-induced damage or deformation of the synthetic resin wafer storage case. The combination of the AAPA and Fujitsu Ltd does not explicitly teach that dust generation from the surface of the wafer storage case is prevented by the aforementioned surfactant coating layer. However, the surfactant coating layer of Fujitsu Ltd (or any coating layer, for that matter) would inherently prevent dust generation from the surface of the wafer storage case because such a layer would prevent the surface of the wafer storage case, as well as the dust particles generated thereon / therefrom, from being exposed and, in effect, "trap" the dust particles on the surface. Additionally and regarding Claim 3, the combination of the AAPA and Fujitsu Ltd does not explicitly teach drying the wafer storage case coated with the coating agent (i.e., before the pure water cleaning step). However, Fujitsu Ltd does teach that, after the surfactant molecular layer forming step, the article is hung up on a carrying machine "13" and transferred to the first shower cleaning device (i.e., for pure water cleaning and removal of excess surfactant) (Abstract, Figure 2, and paragraphs [0057] – [0058]). This step of hanging and transporting taught by Fujitsu Ltd would have inherently at least partially dried the article (i.e., the wafer storage case) coated with the surfactant due to the air-drying that would necessarily occur during the hanging and transporting steps. Regarding **Claims 1 and 2**, the combination of the AAPA and Fujitsu Ltd teaches a synthetic resin wafer storage case for housing wafers, wherein a surface of the wafer storage case is coated with a coating layer of a coating agent, specifically a surfactant, to prevent dust generation from the surface. Specifically,

the wafer storage case produced by the process of the combination of the AAPA and Fujitsu Ltd meets the limitations of Claims 1 and 2 (see the discussion of Claims 3 and 4 above for details). Regarding **Claims 5 and 6**, the combination of the AAPA and Fujitsu Ltd does not explicitly teach that the pure water used in the step of cleaning has a low specific resistance (Claim 5), particularly 10 MΩ·cm or less (Claim 6). Specifically, Fujitsu Ltd is silent as to the specific resistance of the pure water utilized in the cleaning process. However, the AAPA teaches that, in the art of cleaning a wafer storage case, it was known to clean the case with pure water having a specific resistance of 10 MΩ·cm or higher (page 2, lines 15 – 25 of the applicant's specification). Therefore, it would have been obvious to one of ordinary skill in the art to utilize pure water having a specific resistance in the range of 10 MΩ·cm or higher, for example 10 MΩ·cm, in the cleaning process of the combination of the AAPA and Fujitsu Ltd because the AAPA teaches that pure water having such a specific resistance can be and is known to be used to clean wafer storage cases (i.e., water having such a specific resistance is operable to clean wafer storage cases). Please note that the selection of a known material (in this case, pure water having a specific resistance of 10 MΩ·cm) based on its suitability for its intended use (in this case, cleaning a wafer storage case) is *prima facie* obvious (MPEP 2144.07). Regarding **Claim 7** (as it depends from Claims 3 – 6), the combination of the AAPA and Fujitsu Ltd also teaches that the surface of the wafer storage case is coated with the coating agent by immersing the case in an aqueous solution of the coating agent (Abstract, Figure 2, and paragraph [0057]). Regarding **Claims 8 and 9** (as they

depend from Claims 3 – 6), the combination of the AAPA and Fujitsu Ltd does not explicitly teach that the wafer storage case to be coated is a cleaned wafer storage case (Claim 8), specifically a wafer storage case cleaned with surfactant cleaning and pure water washing (Claim 9). However, Fujitsu Ltd does teach that, in certain cases, it is desirable to pre-clean the article prior to the surfactant cleaning / coating step (Figure 4, and paragraphs [0066] – [0067]). Additionally, please note that applicant's Claims 8 and 9 encompass a situation in which the surfactant cleaning and pure water washing processes are simply repeated. It would have been obvious to one of ordinary skill in the art to pre-clean the wafer storage case by surfactant cleaning and pure water cleaning (i.e., to simply repeat the cleaning process of the combination of the AAPA and Fujitsu Ltd) with the reasonable expectation of successfully and advantageously insuring that the wafer storage case is as clean as possible (i.e., improving the cleanliness of the storage case due to repeating the cleaning steps). Regarding **Claim 10** (as it depends from Claims 3 – 6), the combination of the AAPA and Fujitsu Ltd also teaches that the coating agent is a surfactant (see the discussion of Claims 3 and 4 above). Regarding **Claim 11** (as it depends from Claims 1 and 2) and **Claim 12** (as it depends from Claims 3 – 6), the combination of the AAPA and Fujitsu Ltd does not explicitly teach preparing wafers and housing the wafers in the wafer storage case treated by the process according to any one of Claims 3 – 6 (e.g., the wafer storage case according to Claim 1 or 2). However, the wafer storage case of the AAPA is clearly designed and intended to be used to house wafers (page 2, lines 3 – 18 of the applicant's specification).

Therefore, it would have been obvious to one of ordinary skill in the art to house wafers in the wafer storage case of / produced by the combination of the AAPA and Fujitsu Ltd (i.e., after "preparing" the wafers by, for example, fabricating the wafers and transporting the wafers to and into the storage case) because the wafer storage case of the AAPA is designed and intended to be used in that manner (i.e., to house wafers). In other words, one of ordinary skill in the art would not have been expected to go through the trouble of performing the extensive cleaning process taught by either the AAPA or Fujitsu Ltd unless wafers were to be housed in the aforementioned storage case.

23. In an alternative to the reasoning presented above, Claims 5, 6, 7 (as it depends from Claims 5 and 6), 8 (as it depends from Claims 5 and 6), 9 (as it depends from Claim 8, as Claim 8 depends from Claims 5 and 6), 10 (as it depends from Claims 5 and 6), and 12 (as it depends from Claims 5 and 6) are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Fujitsu Ltd (JP 09-122610 A), and in further view of Katou et al. (USPN 6,158,721).

24. The combination of the AAPA and Fujitsu Ltd teaches all the limitations of Claims 5, 6, 7 (as it depends from Claims 5 and 6), 8 (as it depends from Claims 5 and 6), 9 (as it depends from Claim 8, as Claim 8 depends from Claims 5 and 6), 10 (as it depends from Claims 5 and 6), and 12 (as it depends from Claims 5 and 6) as set forth above in paragraph 22, except for a process wherein the pure water used in the step of cleaning has a low specific resistance (Claim 5), particularly $10 \text{ M}\Omega\text{cm}$ or

less (Claim 6). Specifically, Fujitsu Ltd is silent as to the specific resistance of the pure water utilized in the cleaning process. However, Katou et al. teaches that when semiconductor devices are cleaned with pure water having a high resistivity, static electricity is generated, which causes the adsorption of particulates (Col.1, lines 7 – 24). To solve this problem, Katou et al. teaches controlling the resistivity of pure water used in a cleaning process to be, for example, $0.05 \text{ M}\Omega\text{cm}$ (i.e., a value within the applicant's claimed range) (Col.5, lines 32 – 46, and Col.10, lines 3 – 21). Therefore, it would have been obvious to one of ordinary skill in the art to utilize pure water having a low resistivity of, for example, $0.05 \text{ M}\Omega\text{cm}$ (as taught by Katou et al.) in the cleaning process of the combination of the AAPA and Fujitsu Ltd with the reasonable expectation of successfully and advantageously preventing the build-up of static electricity on the surface of the wafer storage case, thereby preventing the detrimental adsorption of particulates to the case.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


WDM

Wesley D Markham
Examiner
Art Unit 1762

MICHAEL BARR
PRIMARY EXAMINER

